

AMENDMENTS TO THE DRAWINGS

The Examiner objected to the drawings and requested that Figs. 10A-12I be designated by a legend such as Prior Art.

Applicants are attaching hereto 3 sheets of corrected drawings (Figs. 10A-12I) that comply with the provisions of 37 C.F.R. § 1.121(d). The Applicants have labeled Figs. 10A-12I as "Related Art".

The newly submitted drawings are labeled "Replacement Sheet" in the page header, in compliance with 37 CFR § 1.84(c). No new matter is added.

Applicants respectfully request that the newly submitted drawings be accepted and that the objections to the drawings be reconsidered and withdrawn.

Attachment: Replacement sheets

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REMARKS

Claims 1-21 are currently pending in the application; with claims 1 and 8 being independent. Claims 1-20 were pending prior to the Office Action. In this Reply, new claim 21 has been added. Claims 1 and 2 have been amended.

Claims 8-10 have been withdrawn from consideration as being directed to a non-elected group (Group II). Claims 5-7 have been withdrawn from consideration as being directed to non-elected species. Claim 1 is generic to all species (Species I, II and III) of Group I. Claims 5-7 are subject to possible rejoinder.

The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein. Applicants respectfully request favorable consideration thereof in light of the amendments and comments contained herein, and earnestly seek timely allowance of the pending claims.

Objection to the Specification

The Examiner objected to the specification because the title of the invention is not descriptive.

Applicants have amended the title of the invention. Accordingly, Applicants respectfully request that the objections to the specification be reconsidered and withdrawn.

Applicants are not aware of errors in the specification at this time. If Applicants become aware of any errors in the specification, Applicants will promptly correct such errors.

Summary of Interview

A telephonic interview was conducted on May 1, 2009 with Examiner Andy Huynh. During the telephonic interview, potential amendments related to recitation of electrodes with respect to claims 1 and 2 were discussed.

The recitations of first and second electrodes in claims 1 and 2 in the present Reply are consistent with Examiner's suggestions made during the Interview.

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Claim Rejections – 35 USC §102

The Examiner rejected claims 1 and 4 under 35 U.S.C. § 102(b) as being anticipated by JP 2004-55669.

This rejection is respectfully traversed.

Applicants have amended claim 1 to recite “a photoelectric converting portion; a charge transmitting portion comprising a charge transmitting electrode that transmits a charge generated by the photoelectric converting portion; a peripheral circuit portion connected to the charge transmitting portion; a wiring layer for the peripheral circuit portion; and wherein a surface level of a field oxide film provided at the peripheral circuit portion and the charge transmitting portion to surround an effective image pick-up region of the photoelectric converting portion is to a degree the same as a surface level of the photoelectric converting portion, the charge transmitting electrode includes a first electrode, and a surface level of the first electrode is substantially the same as a surface level of the wiring layer.”

The amendment to claim 1 is supported by, at least, Figs.1B and 5I-6L of the present invention and the corresponding descriptions of the figures, in the specification. For example, in Fig. 6K, the surface level of electrode 3b (discussed at page 26 lines 13-19 of the specification) is substantially the same as a surface level of the wiring layer 7 (discussed at page 31 lines 2-6 in the specification). As also described at pages 30-31 in the original specification, “a total face thereof is etched under a condition that etching rates of the resist and the second layer doped amorphous silicon film 3b become substantially the same to flatten the second layer doped amorphous silicon film 3b. [...] Thereafter, as shown by Fig.6J, a resist pattern R2 for forming the peripheral circuit is formed. Here, the resist pattern R2 is formed to cover portions of a solid image pick-up element forming portion and the peripheral circuit portion. Further, as shown by Fig.6K, the second layer doped amorphous silicon film 3b above the photodiode region 30 is etched to remove by constituting a mask by the resist pattern R2 and a pattern as the wiring 7 of the peripheral circuit is made to remain” (also see Figs. 6J and 6K illustrating process steps for forming electrode 3b and wiring layer 7).

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JP 2004-55669 merely discloses a solid-state imaging element in which a frame type field oxide film 4 is formed to a concave area R to surround an effective imaging region 1A of the solid-state imaging element (Fig. 4).

JP 2004-55669 does not disclose a wiring layer for the peripheral circuit portion; and a charge transmitting electrode including a first electrode, where a surface level of the first electrode is substantially the same as a surface level of the wiring layer, as recited in claim 1. In JP2004-055669, a photodiode 2 and a charge coupled device 3 are formed in a valid imaging region 1A surrounded by a field oxide 4, and the upper layer is covered with an insulator layer 5. A wiring electrode 7 is formed on the field oxide 4, and the upper layer is covered with a flattening film 6 (paragraphs [0030]-[0031], Fig. 4). As clearly shown in Fig. 4 of JP 2004-55669, the wiring 7 is formed on the insulating layer 5 such that a surface level of the charge transfer electrode of the charge coupled device 3 is not substantially the same as a surface level of the wiring 7.

Thus, JP 2004-055669 does not disclose a charge transmitting electrode including a first electrode, and a surface level of the first electrode being substantially the same as a surface level of a wiring layer as recited in claim 1.

For all of the above reasons, taken alone or in combination, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 102 (b) rejection of claim 1. Claim 4 depends from claim 1 and is allowable at least by virtue of its dependency.

Applicants respectfully submit that generic claim 1 is allowable and therefore request that claims 5-7, which depend from claim 1, be rejoined and allowed.

Claim Rejections – 35 USC § 103

The Examiner rejected claims 2 and 3 under 35 U.S.C. § 103(a) as being unpatentable over JP 2004-55669 in view of JP 2003-332554. Applicants traverse this rejection.

Applicants respectfully submit the Examiner has failed to establish a *prima facie* case of obviousness.

Applicants submit that the Examiner's reliance on JP 2003-332554 on page 6 of the Office Action as allegedly pertaining to incremental features of claims 2 and 3 fails to make up

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for the deficiencies of the asserted JP 2004-55669 reference discussed above with respect to independent claim 1. Therefore, the asserted grounds of rejection fail to establish *prima facie* obviousness of any pending claim.

The teachings of JP 2004-55669 are presented above in the arguments traversing the §102 rejection of claim 1. As provided above in the arguments for the allowability of claim 1, JP 2004-55669 fails to teach or suggest all of the elements for claim 1.

JP 2003-332554 does not disclose or suggest a wiring layer for a peripheral circuit portion and a charge transmitting electrode including a first electrode such that a surface level of the first electrode is substantially the same as a surface level of the wiring layer.

Therefore, JP 2003-332554 fails to teach or suggest all of the elements for claim 1.

For all of the above reasons, taken alone or in combination, Applicants respectfully request reconsideration and withdrawal of the 35 U.S.C. § 103 (a) rejection of claims 2 and 3.

New Claims

New claim 21 is added through this Reply. No new matter is added. The new claim is allowable for at least due to its dependency from independent claim 1. Applicants respectfully request that the new claim be allowed.

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Conclusion

In view of the above amendments and remarks, this application appears to be in condition for allowance and the Examiner is, therefore, requested to reexamine the application and pass the claims to issue.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Corina E. Tanasa, Registration No. 64,042, at telephone number (703) 208-4003, located in the Washington, DC area, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Dated: May 11, 2009

Respectfully submitted,

By 

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Attachments: Replacement drawings for Figs. 10A-12I.

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